

'HOME' ENTERED AT 08:28:02 QN 15 NOV 2002

=> file registry	SINCE FILE	TOTAL
COST IN U.S. DOLLARS	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 08:28:11 ON 15 NOV 2002  
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STRUCTURE FILE UPDATES: 13 NOV 2002 HIGHEST RN 473527-47-8  
DICTIONARY FILE UPDATES: 13 NOV 2002 HIGHEST RN 473527-47-8

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
PROPERTIES for more information. See STNote 27, Searching Properties  
in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=>  
Uploading benzazolium.str

L1 STRUCTURE UPLOADED

=> s l1 sss  
SAMPLE SEARCH INITIATED 08:28:27 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 351 TO ITERATE

100.0% PROCESSED	351 ITERATIONS	0 ANSWERS
SEARCH TIME: 00.00.03		

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 5896 TO 8144  
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s l1 full  
FULL SEARCH INITIATED 08:28:34 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 7106 TO ITERATE

100.0% PROCESSED	7106 ITERATIONS	2 ANSWERS
SEARCH TIME: 00.00.07		

L3 2 SEA SSS FUL L1

=> file caplus	SINCE FILE	TOTAL
COST IN U.S. DOLLARS	ENTRY	SESSION
FULL ESTIMATED COST	140.28	140.49

FILE 'CAPLUS' ENTERED AT 08:28:45 ON 15 NOV 2002  
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FILE COVERS 1907 - 15 Nov 2002 VOL 137 ISS 21  
FILE LAST UPDATED: 14 Nov 2002 (20021114/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> s l3

L4 1 L3

=> d bib ab

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS

AN 1965:52171 CAPLUS

DN 62:52171

OREF 62:9265e-h,9266a-h,9267a-b

TI Behavior and reactivity of heterocyclic ammonium compounds in the synthesis of cyanine and carbocyanine dyes. III. Mixed anhydrobases

AU Metzger, Jacques; Larive, Henri; Dennilauler, Rene; Baralle, Roger; Gaurat, Claude

SO Bull. Soc. Chim. France (1964), (11), 2879-87

DT Journal

LA French

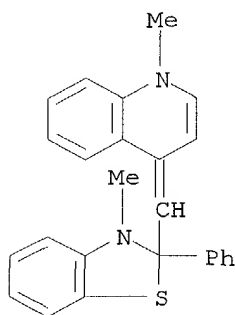
AB Different structures can be assigned to 2,3-dimethyl-2-[(3-methyl-2-benzothiazolinyliidene)methyl]benzothiazole (I). The 2-Me group, in particular, can be replaced by a H atom or a Ph group, and the benzothiazolinyliidene group by another heterocyclic compd. such as naphthothiazole and quinoline. Methods for the prepn. of new, mixed anhydrobases and their properties are described. 3-Methylbenzothiazolium iodide (II) (277 g.) added with cooling and stirring to 50 g. Na in 1.9 l. dry MeOH gave an approx. 0.5N soln. of 3-methyl-2-methoxybenzothiazoline (III). 2,3-Dimethylbenzothiazolium p-toluenesulfonate (33.5 g.) in 50 cc. abs. EtOH added with cooling and stirring to 200 cc. 0.5N III yielded 25 g. 3-methyl-2-[(3-methyl-2-benzothiazolinyliidene)methyl]benzothiazoline (IV), m. 178.degree. (Me2CO). IV (6.8 g.) in 20 cc. Me2CO refluxed 5 min. with 5.7 g. MeI gave 6.3 g. 2-[2-[(.omicron.- (methylmercapto)-N-methylanilino]vinyl]-3-methylbenzothiazolium iodide (V), m. 170.degree. (MeOH), .lambda.max. 388 m.mu. (.epsilon. 48,750) (EtOH). V (1.5 g.), 0.48 g. 3-ethyloxazolidin-4-one-2-thione (VI), and 0.5 g. Et3N refluxed 0.5 hr. gave 0.8 g. 3-ethyl-5-[(3-methyl-2-benzothiazolinyliidene)ethylidene]oxazolidin-4-one-2-thione (VII), m. 268.degree. (pyridine-MeOH). V (1.5 g.),

0.97 g. 2,3-dimethylbenzothiazolium iodide (VIII), and 10 cc. abs. MeOH refluxed 2 hrs. yielded 1.05 g. IX, m. 286.degree. (decompn.) (MeOH). 2,3-Dimethyl-5-chlorobenzothiazolium p-toluene-sulfonate (74 g.) in 500 cc. MeOH added with stirring to 400 cc. 0.5N III yielded 45 g. pale yellow 3-methyl-2-[(5-chloro-3-methyl-2-benzothiazolinyldene)methyl]benzothiazoline (X), m. 180.degree. (Me<sub>2</sub>CO). XI (R = Me, R' = Cl) (8 g.) in 50 cc. CH<sub>2</sub>Cl<sub>2</sub> treated 15 min. with 4.54 g. II gave 2,3-dimethyl-5-chlorobenzothiazolium iodide, m. 270.degree. (MeOH), and 5.5 g. X, m. 179.degree.. X (3.5 g.) in 10 cc. CH<sub>2</sub>Cl<sub>2</sub> refluxed 10 min. with 2.8 g. II yielded VIII, m. 218.degree. (MeOH). X (13.9 g.) in 150 cc. dry C<sub>6</sub>H<sub>6</sub> refluxed 10 min. with 11.43 g. MeI gave 13 g. 5-Cl deriv. (XII) of V, needles, m. 270.degree.. XII (4.9 g.) in 15 cc. dry pyridine refluxed 5 hrs. with 2.68 g. 2-(diphenylamino)-4-thiazolinone and 1 g. Et<sub>3</sub>N yielded 1.42 g. 2-(diphenylamino)-5-[(5-chloro-3-methyl-2-benzothiazolinyldene)ethylidene]-4-thiazolinone, m. 305.degree. (pyridine-MeOH). XII (4.9 g.) in 20 cc. pyridine refluxed 1.5 hrs. with 2.3 g. 2,3-dimethylthiazolium iodide yielded 3.8 g. XIIa, m. 272.degree. (MeOH-m-cresol). 3-Ethyl-2-methylbenzoselenazolium p-toluenesulfonate (39.6 g.) in 60 cc. abs. MeOH treated 10 min. with 200 cc. 0.5N III yielded 25 g. 3-methyl-2-[(3-ethyl-2-benzoselenazolinyldene)methyl]benzothiazoline (XIII), m. 160.degree. (Me<sub>2</sub>CO). XIII (3.73 g.) in 20 cc. Me<sub>2</sub>CO refluxed 5 min. with 2.82 g. MeI yielded 4.9 g. 3-ethylbenzoselenazolium analog (XIV) of V, m. 250.degree. (MeOH),  $\lambda_{\text{max}}$  396 m. $\mu$ . ( $\epsilon$  15,750) (EtOH). XIV (1.03 g.) in 20 cc. abs. MeOH, 0.44 g. VI, and 0.4 g. Et<sub>3</sub>N refluxed 0.5 hr. yielded 0.6 g. 5-[(3-ethyl-2-benzoselenazolinyldene)ethylidene] analog of VII, m. 230.degree. (decompn.) (pyridine-MeCH). XIV (5.15 g.) in 40 cc. dry pyridine and 3.25 g. 2,3-dimethyl-5-chlorobenzothiazolium iodide (XV) refluxed 3 hrs. gave 3.9 g. XVa, m. 300.degree. (decompn.) (MeOH-m-cresol). 2,3-Dimethyl- $\beta$ -naphthothiazolium p-toluenesulfonate (38.5 g.) in 125 cc. MeOH treated with cooling and stirring with 200 cc. 0.5N III gave 26 g. 3-methyl-2-[(3-methyl- $\beta$ -naphthothiazolinyldene)methyl]benzothiazoline (XVI), m. 206.degree. (Me<sub>2</sub>CO). The 2-Ph deriv. (XVII) (4.4 g.) of XVI in 20 cc. CH<sub>2</sub>Cl<sub>2</sub> with 2.77 g. II yielded the 2-Ph deriv. of II, m. 245.degree. (MeOH), and XVI. XVI (7.2 g.) in 250 cc. Me<sub>2</sub>CO refluxed 2 hrs. with 5.7 g. MeI yielded 6 g. 3-methyl- $\beta$ -naphthothiazolium analog (XVIII) of V, m. 266.degree. (MeOH),  $\lambda_{\text{max}}$  404 m. $\mu$ . ( $\epsilon$  48,000) (EtOH). XVIII (5.04 g.) and 1.74 g. 3-methyl-1-phenyl-5-pyrazolone refluxed 1 hr. with 1 g. Et<sub>3</sub>N gave 3-methyl-1-phenyl-4-[(3-methyl- $\beta$ -naphthothiazolin-2-ylidene)ethylidene]-5-pyrazolone, m. 270.degree. (C<sub>6</sub>H<sub>6</sub>). XVIII (5.04 g.) in 20 cc. dry pyridine and 2.75 g. XII refluxed 3 hrs. gave 2 g. XVIIIa, m. 245.degree. (MeOH-m-cresol). 1,2-Dimethylquinolinium p-toluenesulfonate (XIX) (33 g.) in 60 cc. MeOH with 200 cc. 0.5N III gave 3-methyl-2-[(1-methyl-2(1H)-quinolyldene)methyl]benzothiazoline (XX), m. 168.degree. (Me<sub>2</sub>CO). XX (6.06 g.) in 60 cc. Me<sub>2</sub>CO refluxed 5 min. with 5.7 g. MeI yielded 7.2 g. 1-methylquinolinium analog of V, m. 224.degree. (MeOH). The anhydrobase from 1,4-dimethylquinolinium salt (6.28 g.) in 20 cc. CH<sub>2</sub>Cl<sub>2</sub> treated several min. with 5.54 g. II and dild. with 60 cc. hexane gave 1,4-dimethylquinolinium iodide and 3-methyl-2-[(1-methyl-4(1H)-quinolyldene)methyl]benzothiazoline, m. 148.degree. (hexane). 1,2,3,3-Tetramethylindolinium p-toluenesulfonate (34.5 g.) and 27.7 g. II in 250 cc. MeOH refluxed a few min. and treated with 30 g. Et<sub>3</sub>N gave 3-methyl-2-[(1,3,3-trimethylindolinyldene)methyl]benzothiazoline, m. 186.degree. (Me<sub>2</sub>CO). 5-Chloro-3-methylbenzothiazolium p-toluenesulfonate (3.55 g.) and 3.35 g. 2,3-dimethylbenzothiazolium p-toluenesulfonate in 20 cc. MeOH treated with 4 g. Et<sub>3</sub>N gave 5-chloro-3-methyl-2-[(3-methyl-2-benzothiazolinyldene)methyl]benzothiazoline, m. 174.degree. (C<sub>6</sub>H<sub>6</sub>-petr. ether). XI (R = Me, R' = H) (16.3 g.) and 19.4 g. 3-methyl-2-phenylbenzothiazolium p-toluenesulfonate (XXI) in 60 cc. CH<sub>2</sub>Cl<sub>2</sub> stirred 10 min. at room temp., dild. with 300 cc. ligroine, and stirred again 15 min. yielded 3-methyl-2-phenyl-2-[(3-methyl-2-benzothiazolinyldene)methyl]benz

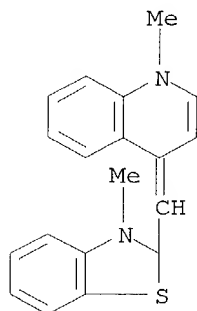
othiazoline (XXII), m. 220.degree. (C6H6-hexane). XXII (3.87 g.) in 50 cc. C6H6 treated 0.5 hr. with 2.84 g. MeI gave 4.24 g. 3-methyl-2-[.beta.-[.omicronron.-(methylmercapto) - N - methylanilino]styryl]benzothiazolium iodide (XXIII), m. 205.degree. (MeOH), .lambda.max. 395 m.mu. (.epsilon. 50,000) (EtOH) which hydrolyzed with concd. HCl gave 2-(benzoylmethylene)-3-methylbenzothiazoline, m. 181.degree.. The anhydrobase (4.26 g.) from 2,3-dimethyl-.beta.-naphthothiazolium salt stirred 10 min. in 20 cc. CH2Cl2 with 3.86 g. XXI gave 6.6 g. XVII, m. 220.degree. (C6H6-hexane). XVII (4.38 g.) in 30 cc. C6H6 treated 2 hrs. with 2.84 g. MeI yielded 4.64 g. 3-methyl-2-[.beta.-[.omicronron.-(methylmercapto)-N-methylanilino]styryl]-.beta.-naphthothiazolium iodide, m. 270.degree. (MeOH), .lambda.max. 412 m.mu. (.epsilon. 57,750) (EtOH). Anhydrobase (16.7 g.) from XIX in 60 cc. CH2Cl2 stirred 0.5 hr. with 19.3 g. XXI gave 13 g. 2-Ph deriv. (XXIV) of XX, m. 216.degree. (repptd. from C6H6 with petr. ether). XXIV (3.82 g.) in 30 cc. C6H6 treated 2 hrs. with 3 g. MeI gave 4.3 g. 1-methylquinolinium analog of XXIII, m. 264.degree. (MeOH), .lambda.max. 442 m.mu. (.epsilon. 42,250) (EtOH) which hydrolyzed with concd. HCl gave 1-methyl-2-(benzoylmethylene)-1,2-dihydroquinoline. Anhydrobase (6.28 g.) from the 1,4-isomer of XIX in 20 cc. CH2Cl2 with 7.94 g. XXI gave the bright yellow 4(1H)-quinolylidene analog of XXIII, m. 210.degree. (C6H6-petr. ether). 2-MeSC6H4NH2 (5.6 g.) refluxed 18 hrs. with 6 g. Me2CO gave 4.4 g. 2-MeSC6H4N:CMe2 (XXV), b40 142.degree., n23D 1.615. XXV (7 g.) and 10 g. MeI in 50 cc. dry Et2O kept 3 days at room temp. gave XXV.MeI, m. 159-60.degree.. 2,2,3-Trimethylbenzothiazoline (7 g.) and 10 g. MeI kept 3 days at room temp. yielded 10 g. yellow XXV.MeI. XXV.MeI (3.2 g.) and 2.3 g. VIII stirred 2 hrs. with 1 cc. Et3N gave 3-methyl-2-[2-[.omicronron.-(methylmercapto)-N-methylanilino]propenyl]benzothiazolium iodide, m. 220.degree. (decompn.) (AcOH), .lambda.max. 385 m.mu. (.epsilon. 58,000) (EtOH).

=> d hitstr

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS  
 IT **2862-24-0**, Quinoline, 1,4-dihydro-1-methyl-4-[(3-methyl-2-phenyl-2-benzothiazolinyl)methylene]- **2950-57-4**, Quinoline, 1,2-dihydro-1-methyl-2-[(3-methyl-2-benzothiazolinyl)methylene]- (prepn. of)  
 RN 2862-24-0 CAPLUS  
 CN Quinoline, 4-[(2,3-dihydro-3-methyl-2-phenyl-2-benzothiazolyl)methylene]-1,4-dihydro-1-methyl- (9CI) (CA INDEX NAME)



RN 2950-57-4 CAPLUS  
 CN Quinoline, 1,2-dihydro-1-methyl-2-[(3-methyl-2-benzothiazolinyl)methylene]- (7CI, 8CI) (CA INDEX NAME)



=> file stnguide  
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
5.18	145.67

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-0.62	-0.62

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FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Nov 8, 2002 (20021108/UP).

=>

Uploading

THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE

Do you want to switch to the Registry File?

Choice (Y/n):

Switching to the Registry File...

Some commands only work in certain files. For example, the EXPAND command can only be used to look at the index in a file which has an index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of commands which can be used in this file.

=> FILE REGISTRY

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
0.24	145.91

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
0.00	-0.62

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STRUCTURE FILE UPDATES: 13 NOV 2002 HIGHEST RN 473527-47-8  
DICTIONARY FILE UPDATES: 13 NOV 2002 HIGHEST RN 473527-47-8

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

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PROPERTIES for more information. See STNote 27, Searching Properties  
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<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=>

Uploading benzazolium.str

L5 STRUCTURE UPLOADED

=> s l5 sss

SAMPLE SEARCH INITIATED 08:32:15 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 850 TO ITERATE

100.0% PROCESSED 850 ITERATIONS 0 ANSWERS  
SEARCH TIME: 00.00.02

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 15252 TO 18748  
PROJECTED ANSWERS: 0 TO 0

L6 0 SEA SSS SAM L5

=> s l5 full

FULL SEARCH INITIATED 08:32:22 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 17638 TO ITERATE

100.0% PROCESSED 17638 ITERATIONS 3 ANSWERS  
SEARCH TIME: 00.00.09

L7 3 SEA SSS FUL L5

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	140.28	286.19

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.62

FILE 'CAPLUS' ENTERED AT 08:32:34 ON 15 NOV 2002  
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FILE COVERS 1907 - 15 Nov 2002 VOL 137 ISS 21  
FILE LAST UPDATED: 14 Nov 2002 (20021114/ED)

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=> s 17

L8 2 L7

=> d 1-2 bib ab hitstr

L8 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS  
AN 1977:460746 CAPLUS  
DN 87:60746  
TI Silver halide emulsion containing photographic sensitizing dyes  
IN Heseltine, Donald W.; Kurtz, Donald W.; Chapman, Derek D.; Elwood, James K.  
PA Eastman Kodak Co., USA  
SO U.S., 30 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
FAN.CNT 2

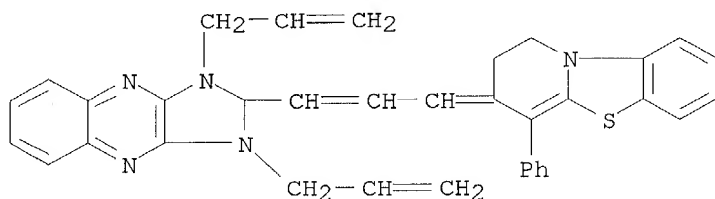
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 4003750	A	19770118	US 1973-356980	19730503
	FR 2228090	A1	19741129	FR 1974-15171	19740502
	FR 2228090	B1	19771028		
	GB 1467844	A	19770323	GB 1974-19249	19740502
PRAI	US 1973-356980		19730503		

AB Methine dyes with structures I-X (R, R1, R2, R3 = H, C1-8 alkyl, C6-20 aryl; R4 = H, C1-8 alkyl; Y = nonmetallic atoms required to complete a heterocyclic ring selected from class consisting of indole, thiazole, oxazole, or selenazole; Y1 = nonmetallic atoms required to complete a heterocyclic ring selected from class consisting of thiazole, oxazole, imidazole, or selenazole; Q, Z = nonmetallic atoms required to complete a 5-6 member heterocyclic ring; R5 = alkyl, alkenyl, aryl; R6 = XI-XI; R7, R8 = alkyl; R9, R10 = alkyl, cycloalkyl; R11 = alkyl, CN, alkoxy, C6-20 aryl, halo, NO2; a = 1-2; b = 1-3; n = 0-1; x = 0-3; X- = anion) are used as spectral sensitizers and filter dyes for Ag halide photog. emulsions. Thus, 3'-ethyl-4-phenyl-3-pyrido[2,1-b]benzothiazolothiacyanine iodide dissolved in a suitable solvent was added to a S- and Au-sensitized cubic grained Ag(Br,I) (2.5 mol% I) emulsion at 200 mg dye/mol Ag, coated on a cellulose acetate support at 100 mg Ag/ft<sup>2</sup>, exposed through a wedge spectrograph, processed in Kodak D19b developer, fixed in hypo, washed, and dried to show a sensitization range of 380-560 nm and a sensitization max. at 540 nm.

IT **63401-52-5P**

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)

RN 63401-52-5 CAPLUS  
 CN 1H-Imidazo[4,5-b]quinoxalinium, 2-[3-(1,2-dihydro-4-phenyl-3H-pyrido[2,1-b]benzothiazol-3-ylidene)-1-propenyl]-1,3-di-2-propenyl-, bromide (9CI)  
 (CA INDEX NAME)



● Br<sup>-</sup>

\*\*\* FRAGMENT DIAGRAM IS INCOMPLETE \*\*\*

L8 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS

AN 1965:52171 CAPLUS

DN 62:52171

OREF 62:9265e-h,9266a-h,9267a-b

TI Behavior and reactivity of heterocyclic ammonium compounds in the synthesis of cyanine and carbocyanine dyes. III. Mixed anhydrobases

AU Metzger, Jacques; Larive, Henri; Dennilauler, Rene; Baralle, Roger; Gaurat, Claude

SO Bull. Soc. Chim. France (1964), (11), 2879-87

DT Journal

LA French

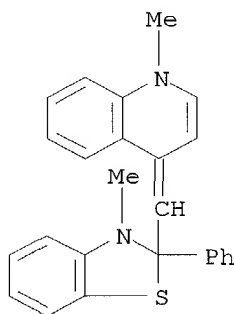
AB Different structures can be assigned to 2,3-dimethyl-2-[(3-methyl-2-benzothiazolinyliidene)methyl]benzothiazole (I). The 2-Me group, in particular, can be replaced by a H atom or a Ph group, and the benzothiazolinyliidene group by another heterocyclic compd. such as naphthothiazole and quinoline. Methods for the prepn. of new, mixed anhydrobases and their properties are described. 3-Methylbenzothiazolium iodide (II) (277 g.) added with cooling and stirring to 50 g. Na in 1.9 l. dry MeOH gave an approx. 0.5N soln. of 3-methyl-2-methoxybenzothiazoline (III). 2,3-Dimethylbenzothiazolium p-toluenesulfonate (33.5 g.) in 50 cc. abs. EtOH added with cooling and stirring to 200 cc. 0.5N III yielded 25 g. 3-methyl-2-[(3-methyl-2-benzothiazolinyliidene)methyl]benzothiazoline (IV), m. 178.degree. (Me2CO). IV (6.8 g.) in 20 cc. Me2CO refluxed 5 min. with 5.7 g. MeI gave 6.3 g. 2-[2-[(.omicronron.- (methylmercapto)-N-methylanilino]vinyl]-3-methylbenzothiazolium iodide (V), m. 170.degree. (MeOH), .lambda.max. 388 m.mu. (.epsilon. 48,750) (EtOH). V (1.5 g.), 0.48 g. 3-ethyloxazolidin-4-one-2-thione (VI), and 0.5 g. Et3N refluxed 0.5 hr. gave 0.8 g. 3-ethyl-5-[(3-methyl-2-benzothiazolinyliidene)ethylidene]oxazolidin-4-one-2-thione (VII), m. 268.degree. (pyridine-MeOH). V (1.5 g.), 0.97 g. 2,3-dimethylbenzothiazolium iodide (VIII), and 10 cc. abs. MeOH refluxed 2 hrs. yielded 1.05 g. IX, m. 286.degree. (decompn.) (MeOH). 2,3-Dimethyl-5-chlorobenzothiazolium p-toluene-sulfonate (74 g.) in 500 cc. MeOH added with stirring to 400 cc. 0.5N III yielded 45 g. pale yellow 3-methyl-2-[(5-chloro-3-methyl-2-benzothiazolinyliidene)methyl]benzothiazoline (X), m. 180.degree. (Me2CO). XI (R = Me, R' = Cl) (8 g.) in 50 cc. CH2Cl2 treated 15 min. with 4.54 g. II gave 2,3-dimethyl-5-chlorobenzothiazolium iodide, m. 270.degree. (MeOH), and 5.5 g. X, m. 179.degree.. X (3.5 g.) in 10 cc. CH2Cl2 refluxed 10 min. with 2.8 g. II yielded VIII, m. 218.degree. (MeOH). X (13.9 g.) in 150 cc. dry C6H6 refluxed 10 min. with 11.43 g. MeI gave 13 g. 5-Cl deriv. (XII) of V,



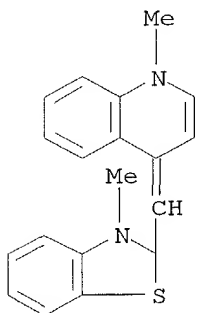
needles, m. 270.degree.. XII (4.9 g.) in 15 cc. dry pyridine refluxed 5 hrs. with 2.68 g. 2-(diphenylamino)-4-thiazolinone and 1 g. Et3N yielded 1.42 g. 2-(diphenylamino)-5-[(5-chloro-3-methyl-2-benzothiazolinylydene)ethylidene]-4-thiazolinone, m. 305.degree. (pyridine-MeOH). XII (4.9 g.) in 20 cc. pyridine refluxed 1.5 hrs. with 2.3 g. 2,3-dimethylthiazolium iodide yielded 3.8 g. XIIa, m. 272.degree. (MeOH-m-cresol). 3-Ethyl-2-methylbenzoselenazolium p-toluenesulfonate (39.6 g.) in 60 cc. abs. MeOH treated 10 min. with 200 cc. 0.5N III yielded 25 g. 3-methyl-2-[(3-ethyl-2-benzoselenazolinylydene)methyl]benzothiazoline (XIII), m. 160.degree. (Me2CO). XIII (3.73 g.) in 20 cc. Me2CO refluxed 5 min. with 2.82 g. MeI yielded 4.9 g. 3-ethylbenzoselenazolium analog (XIV) of V, m. 250.degree. (MeOH),  $\lambda_{\text{max}}$  396 m. $\mu$ . ( $\epsilon$  15,750) (EtOH). XIV (1.03 g.) in 20 cc. abs. MeOH, 0.44 g. VI, and 0.4 g. Et3N refluxed 0.5 hr. yielded 0.6 g. 5-[(3-ethyl-2-benzoselenazolinylydene)ethylidene] analog of VII, m. 230.degree. (decompn.) (pyridine-MeCH). XIV (5.15 g.) in 40 cc. dry pyridine and 3.25 g. 2,3-dimethyl-5-chlorobenzothiazolium iodide (XV) refluxed 3 hrs. gave 3.9 g. XVa, m. 300.degree. (decompn.) (MeOH-m-cresol). 2,3-Dimethyl-.beta.-naphthothiazolium p-toluenesulfonate (38.5 g.) in 125 cc. MeOH treated with cooling and stirring with 200 cc. 0.5N III gave 26 g. 3-methyl-2-[(3-methyl-.beta.-naphthothiazolinylydene)methyl]benzothiazoline (XVI), m. 206.degree. (Me2CO). The 2-Ph deriv. (XVII) (4.4 g.) of XVI in 20 cc. CH2Cl2 with 2.77 g. II yielded the 2-Ph deriv. of II, m. 245.degree. (MeOH), and XVI. XVI (7.2 g.) in 250 cc. Me2CO refluxed 2 hrs. with 5.7 g. MeI yielded 6 g. 3-methyl-.beta.-naphthothiazolium analog (XVIII) of V, m. 266.degree. (MeOH),  $\lambda_{\text{max}}$  404 m. $\mu$ . ( $\epsilon$  48,000) (EtOH). XVIII (5.04 g.) and 1.74 g. 3-methyl-1-phenyl-5-pyrazolone refluxed 1 hr. with 1 g. Et3N gave 3-methyl-1-phenyl-4-[(3-methyl-.beta.-naphthothiazolin-2-ylidene)ethylidene]-5-pyrazolone, m. 270.degree. (C6H6). XVIII (5.04 g.) in 20 cc. dry pyridine and 2.75 g. XII refluxed 3 hrs. gave 2 g. XVIIIa, m. 245.degree. (MeOH-m-cresol). 1,2-Dimethylquinolinium p-toluenesulfonate (XIX) (33 g.) in 60 cc. MeOH with 200 cc. 0.5N III gave 3-methyl-2-[(1-methyl-2(1H)-quinolylydene)methyl]benzothiazoline (XX), m. 168.degree. (Me2CO). XX (6.06 g.) in 60 cc. Me2CO refluxed 5 min. with 5.7 g. MeI yielded 7.2 g. 1-methylquinolinium analog of V, m. 224.degree. (MeOH). The anhydrobase from 1,4-dimethylquinolinium salt (6.28 g.) in 20 cc. CH2Cl2 treated several min. with 5.54 g. II and dild. with 60 cc. hexane gave 1,4-dimethylquinolinium iodide and 3-methyl-2-[(1-methyl-4(1H)-quinolylydene)methyl]benzothiazoline, m. 148.degree. (hexane). 1,2,3,3-Tetramethylindolinium p-toluenesulfonate (34.5 g.) and 27.7 g. II in 250 cc. MeOH refluxed a few min. and treated with 30 g. Et3N gave 3-methyl-2-[(1,3,3-trimethylindolinylydene)methyl]benzothiazoline, m. 186.degree. (Me2CO). 5-Chloro-3-methylbenzothiazolium p-toluenesulfonate (3.55 g.) and 3.35 g. 2,3-dimethylbenzothiazolium p-toluenesulfonate in 20 cc. MeOH treated with 4 g. Et3N gave 5-chloro-3-methyl-2-[(3-methyl-2-benzothiazolinylydene)methyl]benzothiazoline, m. 174.degree. (C6H6-petr. ether). XI (R = Me, R' = H) (16.3 g.) and 19.4 g. 3-methyl-2-phenylbenzothiazolium p-toluenesulfonate (XXI) in 60 cc. CH2Cl2 stirred 10 min. at room temp., dild. with 300 cc. ligroine, and stirred again 15 min. yielded 3-methyl-2-phenyl-2-[(3-methyl-2-benzothiazolinylydene)methyl]benzothiazoline (XXII), m. 220.degree. (C6H6-hexane). XXII (3.87 g.) in 50 cc. C6H6 treated 0.5 hr. with 2.84 g. MeI gave 4.24 g. 3-methyl-2-[(.beta.-[.omicron.-(methylmercapto) - N - methylanilino]styryl]benzothiazolium iodide (XXIII), m. 205.degree. (MeOH),  $\lambda_{\text{max}}$  395 m. $\mu$ . ( $\epsilon$  50,000) (EtOH) which hydrolyzed with concd. HCl gave 2-(benzoylmethylene)-3-methylbenzothiazoline, m. 181.degree.. The anhydrobase (4.26 g.) from 2,3-dimethyl-.beta.-naphthothiazolium salt stirred 10 min. in 20 cc. CH2Cl2 with 3.86 g. XXI gave 6.6 g. XVII, m. 220.degree. (C6H6-hexane). XVII (4.38 g.) in 30 cc. C6H6 treated 2 hrs. with 2.84 g. MeI yielded 4.64 g. 3-methyl-2-[(.beta.-[.omicron.-(methylmercapto) - N - methylanilino]styryl]-.beta.-

naphthothiazolium iodide, m. 270.degree. (MeOH), .lambda.max. 412 m.mu. (.epsilon. 57,750) (EtOH). Anhydrobase (16.7 g.) from XIX in 60 cc. CH<sub>2</sub>Cl<sub>2</sub> stirred 0.5 hr. with 19.3 g. XXI gave 13 g. 2-Ph deriv. (XXIV) of XX, m. 216.degree. (repptd. from C<sub>6</sub>H<sub>6</sub> with petr. ether). XXIV (3.82 g.) in 30 cc. C<sub>6</sub>H<sub>6</sub> treated 2 hrs. with 3 g. MeI gave 4.3 g. 1-methylquinolinium analog of XXIII, m. 264.degree. (MeOH), .lambda.max. 442 m.mu. (.epsilon. 42,250) (EtOH) which hydrolyzed with concd. HCl gave 1-methyl-2-(benzoylmethylene)-1,2-dihydroquinoline. Anhydrobase (6.28 g.) from the 1,4-isomer of XIX in 20 cc. CH<sub>2</sub>Cl<sub>2</sub> with 7.94 g. XXI gave the bright yellow 4(1H)-quinolylydene analog of XXIII, m. 210.degree. (C<sub>6</sub>H<sub>6</sub>-petr. ether). 2-MeSC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub> (5.6 g.) refluxed 18 hrs. with 6 g. Me<sub>2</sub>CO gave 4.4 g. 2-MeSC<sub>6</sub>H<sub>4</sub>N:CM<sub>2</sub> (XXV), b<sub>40</sub> 142.degree., n<sub>23D</sub> 1.615. XXV (7 g.) and 10 g. MeI in 50 cc. dry Et<sub>2</sub>O kept 3 days at room temp. gave XXV.MeI, m. 159-60.degree.. 2,2,3-Trimethylbenzothiazoline (7 g.) and 10 g. MeI kept 3 days at room temp. yielded 10 g. yellow XXV.MeI. XXV.MeI (3.2 g.) and 2.3 g. VIII stirred 2 hrs. with 1 cc. Et<sub>3</sub>N gave 3-methyl-2-[2-(.omicron.-(methylmercapto)-N-methylanilino]propenyl]benzothiazolium iodide, m. 220.degree. (decompn.) (AcOH), .lambda.max. 385 m.mu. (.epsilon. 58,000) (EtOH).

- IT **2862-24-0**, Quinoline, 1,4-dihydro-1-methyl-4-[(3-methyl-2-phenyl-2-benzothiazoliny]methylene]- **2950-57-4**, Quinoline, 1,2-dihydro-1-methyl-2-[(3-methyl-2-benzothiazoliny]methylene]- (prepn. of)  
 RN 2862-24-0 CAPLUS  
 CN Quinoline, 4-[(2,3-dihydro-3-methyl-2-phenyl-2-benzothiazolyl)methylene]-1,4-dihydro-1-methyl- (9CI) (CA INDEX NAME)



- RN 2950-57-4 CAPLUS  
 CN Quinoline, 1,2-dihydro-1-methyl-2-[(3-methyl-2-benzothiazoliny]methylene]- (7CI, 8CI) (CA INDEX NAME)



=> log y

COST IN U.S. DOLLARS

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

CA SUBSCRIBER PRICE

SINCE FILE

ENTRY

10.76

SINCE FILE

ENTRY

-1.24

TOTAL

SESSION

296.95

TOTAL

SESSION

-1.86

L8 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS  
 AN 1977:460746 CAPLUS  
 DN 87:60746  
 TI Silver halide emulsion containing photographic sensitizing dyes  
 IN Heseltine, Donald W.; Kurtz, Donald W.; Chapman, Derek D.; Elwood, James K.  
 PA Eastman Kodak Co., USA  
 SO U.S., 30 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4003750	A	19770118	US 1973-356980	19730503
	FR 2228090	A1	19741129	FR 1974-15171	19740502
	FR 2228090	B1	19771028		
	GB 1467844	A	19770323	GB 1974-19249	19740502
PRAI	US 1973-356980		19730503		

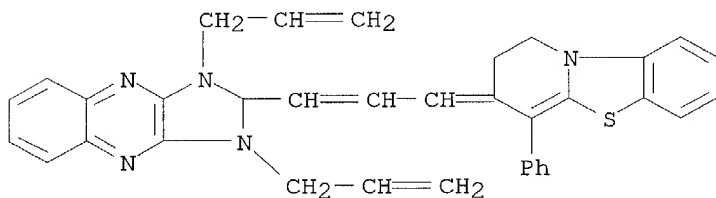
AB Methine dyes with structures I-X (R, R1, R2, R3 = H, C1-8 alkyl, C6-20 aryl; R4 = H, C1-8 alkyl; Y = nonmetallic atoms required to complete a heterocyclic ring selected from class consisting of indole, thiazole, oxazole, or selenazole; Y1 = nonmetallic atoms required to complete a heterocyclic ring selected from class consisting of thiazole, oxazole, imidazole, or selenazole; Q, Z = nonmetallic atoms required to complete a 5-6 member heterocyclic ring; R5 = alkyl, alkenyl, aryl; R6 = XI-XI; R7, R8 = alkyl; R9, R10 = alkyl, cycloalkyl; R11 = alkyl, CN, alkoxy, C6-20 aryl, halo, NO2; a = 1-2; b = 1-3; n = 0-1; x = 0-3; X- = anion) are used as spectral sensitizers and filter dyes for Ag halide photog. emulsions. Thus, 3'-ethyl-4-phenyl-3-pyrido[2,1-b]benzothiazolothiacyanine iodide dissolved in a suitable solvent was added to a S- and Au-sensitized cubic grained Ag(Br,I) (2.5 mol% I) emulsion at 200 mg dye/mol Ag, coated on a cellulose acetate support at 100 mg Ag/ft<sup>2</sup>, exposed through a wedge spectrograph, processed in Kodak D19b developer, fixed in hypo, washed, and dried to show a sensitization range of 380-560 nm and a sensitization max. at 540 nm.

IT 63401-52-5P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. of)

RN 63401-52-5 CAPLUS

CN 1H-Imidazo[4,5-b]quinoxalinium, 2-[3-(1,2-dihydro-4-phenyl-3H-pyrido[2,1-b]benzothiazol-3-ylidene)-1-propenyl]-1,3-di-2-propenyl-, bromide (9CI)  
 (CA INDEX NAME)



● Br<sup>-</sup>

\*\*\* FRAGMENT DIAGRAM IS INCOMPLETE \*\*\*

L8 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS

AN 1965:52171 CAPLUS

DN 62:52171

OREF 62:9265e-h,9266a-h,9267a-b

TI Behavior and reactivity of heterocyclic ammonium compounds in the synthesis of cyanine and carbocyanine dyes. III. Mixed anhydrobases

AU Metzger, Jacques; Larive, Henri; Dennilauler, Rene; Baralle, Roger; Gaurat, Claude

SO Bull. Soc. Chim. France (1964), (11), 2879-87

DT Journal

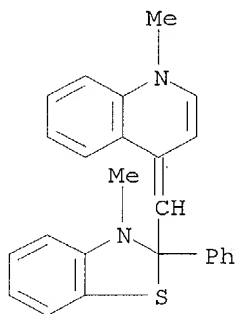
LA French

AB Different structures can be assigned to 2,3-dimethyl-2-[(3-methyl-2-benzothiazolinyliidene)methyl]benzothiazole (I). The 2-Me group, in particular, can be replaced by a H atom or a Ph group, and the benzothiazolinyliidene group by another heterocyclic compd. such as naphthothiazole and quinoline. Methods for the prepn. of new, mixed anhydrobases and their properties are described. 3-Methylbenzothiazolium iodide (II) (277 g.) added with cooling and stirring to 50 g. Na in 1.9 l. dry MeOH gave an approx. 0.5N soln. of 3-methyl-2-methoxybenzothiazoline (III). 2,3-Dimethylbenzothiazolium p-toluenesulfonate (33.5 g.) in 50 cc. abs. EtOH added with cooling and stirring to 200 cc. 0.5N III yielded 25 g. 3-methyl-2-[(3-methyl-2-benzothiazolinyliidene)methyl]benzothiazoline (IV), m. 178.degree. (Me2CO). IV (6.8 g.) in 20 cc. Me2CO refluxed 5 min. with 5.7 g. MeI gave 6.3 g. 2-[2-[.omicron.- (methylmercapto)-N-methylanilino]vinyl]-3-methylbenzothiazolium iodide (V), m. 170.degree. (MeOH), .lambda.max. 388 m.mu. (.epsilon. 48,750) (EtOH). V (1.5 g.), 0.48 g. 3-ethyloxazolidin-4-one-2-thione (VI), and 0.5 g. Et3N refluxed 0.5 hr. gave 0.8 g. 3-ethyl-5-[(3-methyl-2-benzothiazolinyliidene)ethylidene]oxazolidin-4-one-2-thione (VII), m. 268.degree. (pyridine-MeOH). V (1.5 g.), 0.97 g. 2,3-dimethylbenzothiazolium iodide (VIII), and 10 cc. abs. MeOH refluxed 2 hrs. yielded 1.05 g. IX, m. 286.degree. (decompn.) (MeOH). 2,3-Dimethyl-5-chlorobenzothiazolium p-toluene-sulfonate (74 g.) in 500 cc. MeOH added with stirring to 400 cc. 0.5N III yielded 45 g. pale yellow 3-methyl-2-[(5-chloro-3-methyl-2-benzothiazolinyliidene)methyl]benzothiazoline (X), m. 180.degree. (Me2CO). XI (R = Me, R' = Cl) (8 g.) in 50 cc. CH2Cl2 treated 15 min. with 4.54 g. II gave 2,3-dimethyl-5-chlorobenzothiazolium iodide, m. 270.degree. (MeOH), and 5.5 g. X, m. 179.degree.. X (3.5 g.) in 10 cc. CH2Cl2 refluxed 10 min. with 2.8 g. II yielded VIII, m. 218.degree. (MeOH). X (13.9 g.) in 150 cc. dry C6H6 refluxed 10 min. with 11.43 g. MeI gave 13 g. 5-Cl deriv. (XII) of V, needles, m. 270.degree.. XII (4.9 g.) in 15 cc. dry pyridine refluxed 5 hrs. with 2.68 g. 2-(diphenylamino)-4-thiazolinone and 1 g. Et3N yielded 1.42 g. 2-(diphenylamino)-5-[(5-chloro-3-methyl-2-benzothiazolinyliidene)ethylidene]-4-thiazolinone, m. 305.degree. (pyridine-MeOH). XII (4.9 g.) in 20 cc. pyridine refluxed 1.5 hrs. with 2.3 g. 2,3-dimethylthiazolium iodide yielded 3.8 g. XIIa, m. 272.degree. (MeOH-m-cresol). 3-Ethyl-2-methylbenzoselenazolium p-toluenesulfonate (39.6 g.) in 60 cc. abs. MeOH treated 10 min. with 200 cc. 0.5N III yielded 25 g. 3-methyl-2-[(3-ethyl-2-benzoselenazolinyliidene)methyl]benzothiazoline (XIII), m. 160.degree. (Me2CO). XIII (3.73 g.) in 20 cc. Me2CO refluxed 5 min. with 2.82 g. MeI yielded 4.9 g. 3-ethylbenzoselenazolium analog (XIV) of V, m. 250.degree. (MeOH), .lambda.max. 396 m.mu. (.epsilon. 15,750) (EtOH). XIV (1.03 g.) in 20 cc. abs. MeOH, 0.44 g. VI, and 0.4 g. Et3N refluxed 0.5 hr. yielded 0.6 g. 5-[(3-ethyl-2-benzoselenazolinyliidene)ethylidene] analog of VII, m. 230.degree. (decompn.) (pyridine-MeCH). XIV (5.15 g.) in 40 cc. dry pyridine and 3.25 g. 2,3-dimethyl-5-chlorobenzothiazolium iodide (XV) refluxed 3 hrs. gave 3.9 g. XVa, m. 300.degree. (decompn.) (MeOH-m-cresol). 2,3-Dimethyl-.beta.-naphthothiazolium p-toluenesulfonate (38.5 g.) in 125 cc. MeOH treated with cooling and stirring with 200 cc. 0.5N III gave 26 g. 3-methyl-2-[(3-methyl-.beta.-naphthothiazolinyliidene)methyl]benzothiazoline (XVI), m. 206.degree. (Me2CO). The 2-Ph deriv. (XVII) (4.4 g.) of

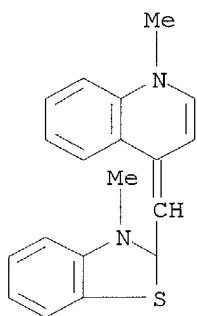
XVI in 20 cc. CH<sub>2</sub>Cl<sub>2</sub> with 2.77 g. II yielded the 2-Ph deriv. of II, m. 245.degree. (MeOH), and XVI. XVI (7.2 g.) in 250 cc. Me<sub>2</sub>CO refluxed 2 hrs. with 5.7 g. MeI yielded 6 g. 3-methyl-.beta.-naphthothiazolium analog (XVIII) of V, m. 266.degree. (MeOH), .lambda.max. 404 m.mu. (.epsilon. 48,000) (EtOH). XVIII (5.04 g.) and 1.74 g. 3-methyl-1-phenyl-5-pyrazolone refluxed 1 hr. with 1 g. Et<sub>3</sub>N gave 3-methyl-1-phenyl-4-[(3-methyl-.beta.-naphthothiazolin-2-ylidene)ethylidene]-5-pyrazolone, m. 270.degree. (C<sub>6</sub>H<sub>6</sub>). XVIII (5.04 g.) in 20 cc. dry pyridine and 2.75 g. XII refluxed 3 hrs. gave 2 g. XVIIIa, m. 245.degree. (MeOH-m-cresol). 1,2-Dimethylquinolinium p-toluenesulfonate (XIX) (33 g.) in 60 cc. MeOH with 200 cc. 0.5N I<sub>2</sub> gave 3-methyl-2-[(1-methyl-2(1H)-quinolyldene)methyl]benzothiazoline (XX), m. 168.degree. (Me<sub>2</sub>CO). XX (6.06 g.) in 60 cc. Me<sub>2</sub>CO refluxed 5 min. with 5.7 g. MeI yielded 7.2 g. 1-methylquinolinium analog of V, m. 224.degree. (MeOH). The anhydrobase from 1,4-dimethylquinolinium salt (6.28 g.) in 20 cc. CH<sub>2</sub>Cl<sub>2</sub> treated several min. with 5.54 g. II and dild. with 60 cc. hexane gave 1,4-dimethylquinolinium iodide and 3-methyl-2-[(1-methyl-4(1H)-quinolyldene)methyl]benzothiazoline, m. 148.degree. (hexane). 1,2,3,3-Tetramethylindolinium p-toluenesulfonate (34.5 g.) and 27.7 g. II in 250 cc. MeOH refluxed a few min. and treated with 30 g. Et<sub>3</sub>N gave 3-methyl-2-[(1,3,3-trimethylindolinylidene)methyl]benzothiazoline, m. 186.degree. (Me<sub>2</sub>CO). 5-Chloro-3-methylbenzothiazolium p-toluenesulfonate (3.55 g.) and 3.35 g. 2,3-dimethylbenzothiazolium p-toluenesulfonate in 20 cc. MeOH treated with 4 g. Et<sub>3</sub>N gave 5-chloro-3-methyl-2-[(3-methyl-2-benzothiazolinylidene)methyl]benzothiazoline, m. 174.degree. (C<sub>6</sub>H<sub>6</sub>-petr. ether). XI (R = Me, R' = H) (16.3 g.) and 19.4 g. 3-methyl-2-phenylbenzothiazolium p-toluenesulfonate (XXI) in 60 cc. CH<sub>2</sub>Cl<sub>2</sub> stirred 10 min. at room temp., dild. with 300 cc. ligroine, and stirred again 15 min. yielded 3-methyl-2-phenyl-2-[(3-methyl-2-benzothiazolinylidene)methyl]benzothiazoline (XXII), m. 220.degree. (C<sub>6</sub>H<sub>6</sub>-hexane). XXII (3.87 g.) in 50 cc. C<sub>6</sub>H<sub>6</sub> treated 0.5 hr. with 2.84 g. MeI gave 4.24 g. 3-methyl-2-[(.beta.-[.omicron.-(methylmercapto) - N - methylanilino]styryl]benzothiazolium iodide (XXIII), m. 205.degree. (MeOH), .lambda.max. 395 m.mu. (.epsilon. 50,000) (EtOH) which hydrolyzed with concd. HCl gave 2-(benzoylmethylene)-3-methylbenzothiazoline, m. 181.degree.. The anhydrobase (4.26 g.) from 2,3-dimethyl-.beta.-naphthothiazolium salt stirred 10 min. in 20 cc. CH<sub>2</sub>Cl<sub>2</sub> with 3.86 g. XXI gave 6.6 g. XVII, m. 220.degree. (C<sub>6</sub>H<sub>6</sub>-hexane). XVII (4.38 g.) in 30 cc. C<sub>6</sub>H<sub>6</sub> treated 2 hrs. with 2.84 g. MeI yielded 4.64 g. 3-methyl-2-[(.beta.-[.omicron.-(methylmercapto)-N-methylanilino]styryl]-.beta.-naphthothiazolium iodide, m. 270.degree. (MeOH), .lambda.max. 412 m.mu. (.epsilon. 57,750) (EtOH). Anhydrobase (16.7 g.) from XIX in 60 cc. CH<sub>2</sub>Cl<sub>2</sub> stirred 0.5 hr. with 19.3 g. XXI gave 13 g. 2-Ph deriv. (XXIV) of XX, m. 216.degree. (repd. from C<sub>6</sub>H<sub>6</sub> with petr. ether). XXIV (3.82 g.) in 30 cc. C<sub>6</sub>H<sub>6</sub> treated 2 hrs. with 3 g. MeI gave 4.3 g. 1-methylquinolinium analog of XXIII, m. 264.degree. (MeOH), .lambda.max. 442 m.mu. (.epsilon. 42,250) (EtOH) which hydrolyzed with concd. HCl gave 1-methyl-2-(benzoylmethylene)-1,2-dihydroquinoline. Anhydrobase (6.28 g.) from the 1,4-isomer of XIX in 20 cc. CH<sub>2</sub>Cl<sub>2</sub> with 7.94 g. XXI gave the bright yellow 4(1H)-quinolyldene analog of XXIII, m. 210.degree. (C<sub>6</sub>H<sub>6</sub>-petr. ether). 2-MeSC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub> (5.6 g.) refluxed 18 hrs. with 6 g. Me<sub>2</sub>CO gave 4.4 g. 2-MeSC<sub>6</sub>H<sub>4</sub>N:CM<sub>2</sub> (XXV), b<sub>40</sub> 142.degree., n<sub>D</sub><sup>20</sup> 1.615. XXV (7 g.) and 10 g. MeI in 50 cc. dry Et<sub>2</sub>O kept 3 days at room temp. gave XXV.MeI, m. 159-60.degree.. 2,2,3-Trimethylbenzothiazoline (7 g.) and 10 g. MeI kept 3 days at room temp. yielded 10 g. yellow XXV.MeI. XXV.MeI (3.2 g.) and 2.3 g. VIII stirred 2 hrs. with 1 cc. Et<sub>3</sub>N gave 3-methyl-2-[2-[(.omicron.-(methylmercapto)-N-methylanilino]propenyl]benzothiazolium iodide, m. 220.degree. (decompn.) (AcOH), .lambda.max. 385 m.mu. (.epsilon. 58,000) (EtOH).

IT **2862-24-0**, Quinoline, 1,4-dihydro-1-methyl-4-[(3-methyl-2-phenyl-2-benzothiazolinyl)methylene]- **2950-57-4**, Quinoline, 1,2-dihydro-1-methyl-2-[(3-methyl-2-benzothiazolinyl)methylene]-

(prepn. of)  
RN 2862-24-0 CAPLUS  
CN Quinoline, 4-[(2,3-dihydro-3-methyl-2-phenyl-2-benzothiazolyl)methylene]-  
1,4-dihydro-1-methyl- (9CI) (CA INDEX NAME)



RN 2950-57-4 CAPLUS  
CN Quinoline, 1,2-dihydro-1-methyl-2-[(3-methyl-2-benzothiazolyl)methylene]-  
(7CI, 8CI) (CA INDEX NAME)



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AN 1989:441343 CAPLUS  
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TI Indolizines. 4. Dyes derived from oxoindolizinium ions and active  
methylene compounds  
AU Weidner, C. H.; Wadsworth, D. H.; Bender, S. L.; Beltman, D. J.  
CS Corp. Res. Lab., Eastman Kodak Co., Rochester, NY, 14650, USA  
SO J. Org. Chem. (1989), 54(15), 3660-4  
CODEN: JOCEAH; ISSN: 0022-3263  
DT Journal  
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OS CASREACT 111:41343  
AB The title dyes I [R = Ph, 2,5(MeO2)C6H3, 2-methoxy-1-naphthyl, 4-MeOC6H4;  
R1 = H, CN, CHO; R2 = H, Me; R1R2 = C6H4; R3 = H, Me, R4 = Ac, CN, F3CCO,  
tert-BuCO, H, Ph; RS = Ac, CN, tert-BuCO, CONHPh, CHO; R4R5 = substituted  
ring] were prepd. by treating oxoindolizinium ions with active methylene  
comps.